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Responsiveness Summary

Source Control Feasibility Study and Proposed Plan

Southeast Rockford Groundwater Contamination Superfund Site

Rockford, Illinois

May 2002

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OVERVIEW

In accordance with Section 117, 42 U.S.C. Section 9617, of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the Illinois Environmental Protection Agency (Illinois EPA or Agency) and the United States Environmental Protection Agency (U.S. EPA) held a public comment period from June 11, 2001 through August 20, 2001 to allow interested parties to comment on the Southeast Rockford Source Control Operable Unit Focused Feasibility Study (hereafter referred to as the Source Control Feasibility Study) and the Proposed Plan (for the) Source Control Response Action (hereafter referred to as the Source Control Proposed Plan) for the source control operable unit of the Southeast Rockford Groundwater Contamination Superfund site in Rockford, Illinois.

The Illinois EPA presented the Source Control Feasibility Study and the Source Control Proposed Plan at six informational meetings (two per day) on June 26, June 27 and June 28, 2001, and at a formal hearing held in two sessions on July 19, 2001. The informational meetings were held at the Villa di Roma restaurant at 11th and Harrison Streets in Rockford, and the public hearing was held at the Brooke Road United Methodist Church at 1404 Brooke Road in Rockford.

The purpose of this responsiveness summary is to document the Illinois EPA's responses to comments received during the public comment period. These comments were considered prior to selection of a final remedy for the control of the four major sources of contamination at the Southeast Rockford Superfund site. The remedy is detailed in Illinois EPA's Record of Decision with which the U.S. EPA concurs.

BACKGROUND OF COMMUNITY INVOLVEMENT AND CONCERNS

Background. Illinois EPA has been responsible for conducting community relations during the investigation for the Drinking Water Operable Unit (Operable Unit 1), Phase I and Phase II of the Groundwater Remedial Investigation and Feasibility Study (Operable Unit 2) and the Source Control Remedial Investigation and Focused Feasibility Study (Operable Unit 3).

The site first came to the attention of the Illinois EPA with a citizen's complaint that plating waste had been dumped in an abandoned well. Subsequent tests of nearby private wells did not detect plating wastes but did find chlorinated solvents commonly used in industry for such things as degreasing machinery. The solvents are in a group of chemicals called volatile organic compounds (VOCs). They are called "volatile" because they evaporate readily and "organic" because they contain carbon. A meeting held in 1984 by the Illinois Department of Public Health (IDPH) and the Illinois EPA drew a crowd of approximately 200. Ongoing concern, however, did not appear to surface until the site was placed on the National Priorities List in 1989 and financial institutions began refusing home mortgage and improvement loans in the area.

Emergency Response Action. In 1989, the U.S. EPA began an emergency response action by giving eligible residents and businesses bottled water. Later U.S. EPA gave these parties point-of-use filters and subsequently connected them to the Rockford Public Water Supply. In October 1989, the Illinois EPA and U.S. EPA held 10 informational meetings to explain this action to residents and inform them of next steps.

Drinking Water Operable Unit. The purpose of the first operable unit was to identify all residences with private wells that had water violating the U.S. EPA drinking water standards. In 1991, the Illinois EPA held a public comment period and public hearing to receive comments on the feasibility study and proposed plan for the drinking water remedy. During this operable unit, many citizens resisted the idea of connections to the public water supply, because, in order to receive the public water connection, they had to sign an agreement to be annexed into the City of Rockford if their property became contiguous to city property. That issue is no longer a major concern, because nearly all of the area has now been annexed by the City of Rockford.

The Illinois EPA and U.S. EPA signed a Record of Decision for the first operable unit in June 1991 providing public water connections to eligible residents and businesses with private well water that violated U.S. EPA drinking water standards. The Record of Decision also provided granular activated carbon treatment for Municipal Well #35.

Groundwater Operable Unit. In 1995, the Illinois EPA held a public comment period and public hearing on the feasibility study and proposed plan for the groundwater remedy. The public hearing was preceded by a series of informational meetings. The proposed plan for the groundwater included public water connections to all those with private wells that were projected to be affected by the project's contaminated groundwater plume in 70 years, continued treatment of Municipal Well #35, and ongoing monitoring and additional public water connections if necessary. Natural attenuation was designated as the remedy for the site-wide groundwater. The plan was contingent upon control of the four major source areas. The plan was accepted and the Illinois EPA and U.S. EPA signed a Record of Decision for the groundwater in September 1995.

The City of Rockford has entered into two consent decrees with the State of Illinois and the United States of America regarding the Southeast Rockford Groundwater Contamination Superfund Site. The original consent decree was entered in federal court in April 1998. That consent decree required the City of Rockford to perform the remedial work required by the September 1995 Groundwater Record of Decision.

An amended consent decree was entered in federal court on January 13, 1999, and it included provisions for reimbursement of past costs as well as a $5 million cash-out for Area 7. The City of Rockford entered into these consent decrees in an effort to forestall what they saw as an area-wide threat of potential lawsuits regarding liability, which the City feared would dampen the economic climate in Rockford. Industries, which contributed to the costs the City of Rockford incurred, were given certain releases of liability by the State of Illinois and the federal government. No releases were given to parties for sources of contamination on their property.

The City of Rockford has constructed the public water supply connections and is conducting ongoing groundwater monitoring and treatment of Municipal Well #35 in accordance with the consent decrees.

Source Control Operable Unit. In June 2001, the Illinois EPA began the community relations effort described in the "Overview" section above. The key issues raised during this comment period are summarized below, followed by a more detailed summary list of comments with the Illinois EPA and U.S. EPA response to each of the comments.

KEY ISSUES

The main issues raised during the Source Control Operable Unit comment period are summarized below.

Issue #1. The City of Rockford is concerned that the remedy may be used to resurrect the threat of community-wide litigation.

Issue #2. The City of Rockford is concerned that the construction of a barrier wall in Area 9/10 will disrupt city transportation and utilities.

Issue #3. The Rockford Park District is concerned that structures needed for the remedy for Area 7 may become the target for vandalism.

Issue #4. The Rockford Park District is concerned that the presence of contaminants in Area 7 and the construction and operation of the remedy for Area 7 may interfere with the use of Ekberg Park.

Issue #5. The residents living near Area 7 are concerned that the remedy not pose a health risk to those using the park or living nearby.

Issue #6. The residents living near Area 7 are concerned that the above-ground-structure needed for the remedy blend in with the neighborhood and not cause the area to be unfairly stigmatized as an unsafe place to live.

Issue #7. There is concern and confusion about the term "leachate".

Issue #8. The Winnebago County Health Department is concerned that there are still 10 properties in the 70 year projected plume area that are not connected to the Rockford Public

Water Supply, because the property owners refused the connection. The Health Department's concern is that renters and future owners of the 10 properties may not be aware of the possible health hazard of drinking water from private wells on those properties.

Issue #9. There are requests to receive "clean" letters from property owners in Areas 9/10 and 11 who own buildings that do not appear to be primary sources of contamination.

Issue #10. Rockford Products is concerned that statements made in the Proposed Plan and fact sheet unfairly imply that Rockford Products is a major source of contamination.

Issue #11. Rockford Products is concerned that the implementation of a remedy for Area 9/10 would deprive them of use of their property.

Issue #12. Hamilton Sundstrand is concerned that there has not been enough information gathered to justify the remedy for Area 9/10.

SUMMARY OF PUBLIC COMMENTS AND ILLINOIS EPA RESPONSES

General Questions and Comments

1. Question: What is the time line for the remediation?

Response: The design of the remedies, which includes precise engineering details, is scheduled for the year 2002. The Illinois EPA hopes to begin actual construction of the remedies in 2003. The time remediation will take varies for each area. The following is an estimate of the length of time each remedy will take after construction is complete.

Area 4

Soil Remedy..... Approximately one month
Leachate Remedy .....35 to 45 years

Area 7

Soil Remedy.....15-25 years
Leachate Remedy.....30-40 years

Area 9/10

Because of lack of data in Area 9/10, time frames for the Area 9/10 remedies can only be described in relationship to all of the remedies studied for that area. The alternative that is the chosen Area 9/10 soil remedy will take less time than the other soil alternatives studied for Area 9/10. The chosen Area 9/10 leachate remedy will take less time than any of the other Area 9/10 leachate remedies studied with the exception of the reactive barrier wall.

Area 11

Soil Remedy.....2-5 years
Leachate Remedy.....*No action*

2. **Question:** Is there a trichloroethylene (TCE) registry for the area?

Response: Yes, the Agency for Toxic Substances and Disease Registry (ATSDR) has established a nation-wide TCE registry. ATSDR is a federal agency, which is part of the Centers for Disease Control and Prevention. This registry collects health information on people throughout the United States who have been exposed to TCE. For more information about the registry, contact Dr. Ginger L. Gist of ATSDR at 1-888-422-8737.

3. **Question:** How deep is the contamination?

Response: Illinois EPA investigations have found contamination in groundwater outside the four source areas to a depth of at least 100 feet below ground surface. The contamination in the source areas is much shallower, the deepest around 35 to 40 feet.

4. **Question:** Since the contamination is so far beneath ground surface, what risk does it pose to humans?

Response: The risks are the following:

- The groundwater in Winnebago County is a valuable resource. Reportedly 100% of Winnebago County residents use groundwater as a drinking water source. The 1995 groundwater remedy—natural attenuation—was designed to reclaim this resource in southeast Rockford for future generations. Illinois EPA investigations indicate that some of the contamination in each of the four areas may be free product (sometimes called non-aqueous phase liquid or NAPL). Natural attenuation is a natural process where either naturally occurring microbes in the soil break down the contaminants into harmless components, or the contaminants become attached to soil particles preventing them from moving into the groundwater. Free product is so concentrated that natural attenuation does not occur, so the contaminants remain in the groundwater making this resource unusable for future generations.
- The major sources of contamination must be controlled and the free product removed so contamination does not move into new areas, contaminating the drinking water supply of those who are still on private wells.
- People who are in the area of contaminated groundwater and refused to connect to the Rockford Public Water Supply have the risk of drinking and bathing in contaminated water from their private wells. Owners of 10 properties have refused to be connected to the Rockford Public Water Supply.
- Some of the contamination is fairly close to the surface. In Area 4, Illinois EPA investigations found very high levels four feet beneath ground surface. Digging into these areas for foundations or for other reasons would expose workers, and possibly surrounding neighborhoods, to a high level of contamination.

- Because the contaminants are volatile, meaning they evaporate or volatilize readily, there is a possibility that vapors from the contaminants could move through the soil into basements of nearby houses. The Illinois EPA and the Illinois Department of Public Health have tested basements in houses nearest the two source areas in residential neighborhoods, Area 4 and Area 7. These tests indicate that levels found so far are not at levels of concern. If the source areas are not remedied, however, there will always be the possibility that contaminants could move into nearby basements.

5. **Question:** If only 10 properties are not connected to the Rockford Public Water Supply, would it not be cheaper to connect these 10 properties instead of trying to remedy the four source areas?

Response: The people in the contaminated groundwater area who are not connected to the Rockford Public Water Supply had free connections offered to them by the U. S. EPA, the Illinois EPA, and/or the City of Rockford. They cannot be forced to connect. Also see response to previous comment.

6. **Comment:** The Winnebago County Health Department asks that the Illinois EPA, the Illinois Department of Public Health, the City of Rockford and the Winnebago County Health Department determine the legal options available to protect people who rent homes located at the 10 properties whose owners refused to connect to the Rockford Public Water Supply. They also ask that these same governmental bodies look at legal options to protect people who may purchase these properties in the future.

Response: The Illinois EPA commits to work with the Winnebago County Health Department, the Illinois Department of Public Health and the City of Rockford to determine the options available to protect purchasers or renters of homes located at the 10 properties whose owners refused to connect to the Rockford Public Water Supply under this project.

7. **Comment:** The City of Rockford supports addressing the four major source areas of contamination. The City also wishes to express concern that the treatment goals for the final design of the facilities and the level of attenuation and standards for surface water and atmosphere discharges be consistent with the long-term nature of the area-wide natural attenuation remedy and the scale and magnitude of the problem in southeast Rockford.

Response: The Illinois EPA shares this concern. All actions taken to implement the remedies for the four source areas must comply with all federal, state and local laws and regulations that are applicable or appropriate and relevant. For example, all discharges to the air and all discharges to surface water must be in full compliance with state and federal laws and regulations. The treatment goals for groundwater are determined by state and federal groundwater laws and regulations. The soil treatment goals have been established in compliance with procedures developed to protect human health and the environment. In addition, the 1995 Groundwater Record of Decision also specifies that the sources of groundwater contamination be controlled in order that the groundwater remedy of natural attenuation can meet the remediation goals of drinking water standards by 2200.

8. Question: Have all of the contaminants been identified? If so may I have a list?

Response: The main contaminants are listed in the fact sheets. The complete list of contaminants are listed in the remedial investigation reports which are located in the two local repositories: (1) the Rock River Branch of the Rockford Public Library at 3128 South 11th Street and (2) the Ken-Rock Community Center at 3218 South 11th Street.

9. Comment: Would it not be more practical and provide economies of scale in both construction and operation of the remedies, to have the same remedies for all four source areas?

Response: Having the same remedies for all four source areas is impractical, because the four source areas are considerably different from one another. For example, Area 7 consists of at least four major spots with contamination by a wide range of chemicals at varying concentrations in ill-defined locations. Area 4 consists mainly of 1,1,1-trichloroethane in one relatively small and well-defined area.

Liability and the 1998 Consent Decree and 1999 Amended Consent Decree

10. Comment: The City of Rockford is concerned that the remedy may be used to resurrect the threat of community-wide litigation. The concern is not with the treatment of soils that contain contaminants that threaten to enter the groundwater. Neither is the concern with certain groundwater remedial actions designed to keep the contaminants in the soil in well-defined pieces of property. The concern is the parts of the remedy that seem to address contaminants in groundwater that migrate from property to property. Designating liability for those contaminants, since the source is ill defined, resurrects the threat of community-wide litigation.

Response: The Illinois EPA has considered this comment and in response has modified the leachate remediation goals for each source area to consider background concentrations coming into each of the areas. "Background" concentrations for a source area are concentrations of contaminants that are determined, using procedures defined in the Resource Conservation and Recovery Act (RCRA), to originate upgradient from a specific source. This means that if upgradient groundwater (groundwater coming onto one's property) were determined to be contaminated, allowances would be made in accordance with RCRA to subtract these concentrations from those found in downgradient groundwater when setting the remediation goals for a source area. The origin of the contaminants coming into a source area does not have to be determined in order to establish background.

11. Comment: The City comments that if a property owner is responsible for the leachate on their property, how does one know the origin of the contaminants in the leachate? How does one know the level of contaminants entering and leaving one's property? Perhaps the contaminants originated elsewhere. The consent decree signed by the City of Rockford and the U. S. Government and the State of Illinois was meant to avoid the uncertainty about responsibility for contaminated groundwater.

Response: See the response to comment #10. RCRA establishes the method for determining the level of contaminants entering and leaving one's property. In general, one or more monitoring wells are placed upgradient from an area. Concentrations in groundwater samples from those wells are compared to concentrations in groundwater collected from downgradient wells. The difference in concentrations between the two wells is considered to originate on the property.

12. Comment: Will landowners be required to clean up the groundwater to drinking water standards even if the water entering their property violates these standards? If so, then the uncertainty of liability, which the consent decree was designed to alleviate, is again an issue.

Response: See the response to comment #10. The City of Rockford and interested parties should also consider the responsive letters from Illinois EPA (June 8, 2001) and U. S EPA (June 25, 2001) that offered specific reassurance concerning the above mentioned covenant and its meaning. These letters are repeated in relevant part in the response to comment/question #85.

13. Comment: The City of Rockford comments that the term "leachate" was never used in its discussions with the State of Illinois and the U. S. government in negotiating the consent decrees between the parties. (See the discussions regarding the consent decree beginning on page 2.) The City asks how the term "leachate" differs from "contaminated" or "highly contaminated" groundwater. Is it something objectionable in the groundwater?

Response: The Illinois EPA defined "leachate" as source material that has moved, or could potentially move, from a source area into groundwater in the vicinity of the four primary source areas. Leachate consists of a high concentration of contaminants that have leached from the source material into the surrounding groundwater. It is distinct from the surrounding groundwater due to those relatively high concentrations and acts as a continuing source of contamination to the surrounding, less contaminated groundwater.

14. Comment: The Source Control Proposed Plan is, on its face, inconsistent with the spirit, intent, purpose and letter of both the 1995 Record of Decision and the ensuing 1998 Consent Decree entered with respect to the Southeast Rockford Superfund Site. The "leachate" remedy is inconsistent with the prior groundwater release granted by the earlier consent decree.

Response: The Illinois EPA's position is that the groundwater remedy (natural attenuation), specified in the 1995 Groundwater Record of Decision, was based on the clearly stated condition that the major sources of groundwater contamination be controlled. The groundwater modeling, which was the basis for projections about the movement of the contaminant plume and the time it would take for natural attenuation to bring the groundwater into compliance with drinking water standards, was based on source control. In effect, the 1995 Groundwater Record of Decision mandates source control. The leachate remedies for the source areas are an important part of source control.

The 1998 and 1999 consent decrees recognized the same distinction between the overall groundwater remedy and the source control remedies delineated in the 1995 Groundwater Record of Decision. The covenant not to sue covenant beneficiaries found in Section VIII of the

1999 Amended Consent Decree specifically excludes liability for "Reserved Source Containment Response Action and Costs" (Section VIII 9 and 10). "Reserved Source Containment Response Action and Costs" is defined in Section IV as response actions and response costs (with interest) to contain or control sources (with the exception of Source Area 7) of site-wide groundwater contamination. These actions and costs are further described as those that contain or control releases or threats of releases of hazardous substances from source areas. The leachate remedies identified in the Source Control Record of Decision are within the definition of "Reserved Source Containment Response Actions and Costs" as stated in the 1999 amended consent decree.

15. Comment: The Illinois EPA should delete the words "has migrated" from its definition of "leachate".

Response: The Illinois EPA disagrees with this comment. The central meaning of "leachate" entails source material migrating into groundwater. If the source material does not "migrate" into the groundwater, there would be no leachate.

16. Comment: Given that it is vitally important to the City of Rockford and Rockford area businesses to fully understand the differences between "leachate" and "contaminated groundwater", the Illinois EPA and U.S. EPA should provide clear definitions so that a clear distinction can be made between the two terms.

Response: See response to comments #13 and #15.

Source Area 7

17. Comment: The Rockford Park District has two concerns: (1) that the structures needed for the Area 7 remedy may become the target for vandalism and (2) that the presence of contaminants in Area 7 and the construction and operation of the Area 7 remedy may interfere with the use of Ekberg Park. Therefore, the Park District thinks that the best location for the treatment building would be the northwest corner of the park. They request that the building be constructed of precast concrete, concrete cinder block or brick. The Park District requests the opportunity to review and approve the location and building materials to be used prior to the bidding process.

Response: The Illinois EPA will work with the Rockford Park District and the Pine Manor Association in determining the location of the treatment building and the type of construction materials for the building. Since there are several different interests involved, the Illinois EPA cannot guarantee approval rights to any one party but intends to work with both parties to reach an agreement, if possible, that satisfies both, as well as satisfying the goal of an effective remedy.

18. Comment: The Pine Manor Association asks that the buildings necessary for the remedy be located as far as possible from the park and all the homes in the neighborhood.

Response: See response to the previous comment.

19. Comment: The outside appearance of the buildings must be equal to the appearances of the homes in the neighborhood.

Response: See response to previous comments.

20. Comment: The Pine Manor Neighborhood Association requests to see the final plan for all aboveground construction necessary for the Area 7 remedy before the remedy is implemented.

Response: The Illinois EPA will show the plans for the above ground construction to leaders of the Pine Manor Neighborhood Association before construction begins.

21. Comment: The Association requests that the existing monitoring wells be modified so they are flush with the ground.

Response: The Illinois EPA will flush mount the existing monitoring wells that are located in the park. The existing monitoring wells on Mr. Ekberg's property will remain as is to lessen the possibility that they may be damaged by heavy equipment that Mr. Ekberg is using.

22. Comment: The Association requests that all of the items (such as tennis courts, basketball courts, playground area, grass area, and street) that are removed or damaged during construction of the remedy be replaced to equal or better than it was at the beginning of construction.

Response: The Illinois EPA will do this.

23. Question: How will the property above the underground piping system be affected and how will it be maintained? Will the aboveground property stay a field or can it be built upon?

Response: The property above the piping will remain a field and can be used as the field was used. Buildings will not be allowed to be constructed on top of the piping. The Illinois EPA, however, has worked with the Rockford Park District so that they could safely install the new playground equipment that they had planned for the Ekberg Park.

24. Question: Who will own the property after the remedy is constructed, the Illinois EPA or the current landowner?

Response: The current landowners will retain ownership of the property.

25. Comment: The emissions from the catalytic oxidation unit must be safe **at all times.**

Response: The Illinois EPA has carefully researched methods to ensure that emissions from the catalytic oxidation unit are safe. The following are the measures that will be taken.

- The system will be outfitted with a catalyst module that breaks the volatile organic compounds into carbon dioxide, water and hydrochloric acid.

- The system will be outfitted with a scrubber that will neutralize and remove the hydrochloric acid before emissions are released into the air.

- The system will be tested thoroughly in a proof-of-performance test before regular operations begin. Emissions will be tested for site-related hazardous air pollutants, carbon monoxide, total volatile organic compounds, dioxins and hydrochloric acid. For some of these parameters, such as dioxins and hazardous air pollutants, samples of air emissions from the stack will be collected and sent to a laboratory for analysis. The unit will be shut down until laboratory results are available showing the emission standards are met.

- During the proof-of-performance test, the unit's operating conditions, such as temperature of the vapors entering and exiting the catalyst module and the flow rate, will be monitored continuously.

- During regular operations, the same operating conditions, such as temperature and flow rate, that were monitored during the proof-of-performance test will be monitored in real time. Real time monitoring means the monitoring results are available immediately. The unit's operating conditions during regular operations must meet the same operating conditions as they did during a successful proof-of-performance test.

- The system will be equipped with a mechanism that will shut down the unit if it fails to meet requirements. For example, if the control panel loses electrical power, if there is loss of proper airflow or loss of flame, or if temperatures or fuel pressure are not in the required ranges, the system will automatically shut down.

26. Comment: We are concerned that the emissions may not be tested often enough. What is the safe and regular interval of testing? Weekly? Bi-weekly? Monthly?

Response: The operating conditions of the unit will be monitored continuously to make sure they are within required ranges for successful destruction of the contaminants. The specific testing schedule of the air emissions themselves will be determined during the design phase of the project. Typically, emissions from this type of unit are tested once a week. The actual schedule for this unit will be determined in consultation with the Illinois EPA Bureau of Air. Although no actual permit is required for the air emissions because the site is a federal Superfund site, air emissions and schedules for testing air emissions will have to meet all federal and state permit requirements.

27. Comment: Will the equipment have a safety shut down system? If anything goes wrong, the system should shut down automatically.

Response: If the operation conditions are not in required ranges, the system feeding the vapors into the unit will be shut down immediately.

28. Comment: The automatic shut down system should be tested on a regular basis. How often will it be tested? Weekly? Biweekly? Monthly?

Response: The automatic shut down system will be tested on a regular basis. The exact testing schedule will be determined in the design phase in consultation with the Illinois EPA Bureau of Air.

29. Comment: If the system shuts down, **all emissions** should be contained inside the building instantly.

Response: When the unit shuts down, the system feeding the contaminant vapors into the system will also immediately shut down so that there will be no more emissions from the unit.

30. Comment: We like the proposed remedy for Area 7. Could the Illinois EPA be mindful of the children's safety and do the construction in the early spring or early fall instead of the late spring and summer when the children most use the park.

Response: The Illinois EPA is very concerned about the safety of children using the park as well as others in the vicinity. The Illinois EPA prefers that the remedy be constructed in early spring or early fall but cannot make a commitment to timing. The Illinois EPA, however, does commit that they and their contractor will take all precautions necessary to protect residents, including children, during construction. Precautions could include fencing of the construction area and spotters behind equipment that is backing up.

31. Comment: The landscaping on the outside of the building must be equal to the appearances of the homes in the neighborhood.

Response: The Illinois EPA will do this.

32. Comment: Landscaping and the buildings must be maintained on a regular basis.

Response: The Illinois EPA will do this.

33. Comment: *Locate all the aboveground equipment inside the building. No equipment* or barrels should be stored outside.

Response: Water and leachate will be collected in tanks prior to off-site disposal. All tanks and other equipment will be stored inside the building.

34. Comment: The building should have a perimeter security system installed. The system *should be capable of notifying the Illinois EPA, the Rockford City Police Department, or the* Rockford Fire Department if need be. The building should have an 800 number to call in case of trouble. This number should be posted clearly on the outside of the building.

Response: The building will be fenced and a security system, capable of notifying local authorities will be installed. An 800 or local number that residents can call in case of emergency will be posted on the building or fence.

35. Comment: The sound level on the outside of the building should be set to a quiet neighborhood standard.

Response: Except during construction, all equipment will be inside the building so the operations should meet residential noise standards. During construction there will be the noise that is normally connected with construction equipment, but no construction will take place at night.

Source Area 9/10

EVALUATION OF AREA 9/10 ALTERNATIVES

Area 9/10 Source Control Proposed Plan preferred leachate alternative (reactive barrier wall)

36. Comment: The underflow of untreated water beneath the reactive wall would likely exceed Class I standards. Therefore, the reactive barrier wall alternative would fail to comply with applicable or relevant and appropriate requirements (ARARs), a threshold criterion, and would not provide long-term effectiveness.

Response: The designed reactive barrier wall for Area 9/10 was the leachate alternative designated as the preferred alternative in the Source Control Proposed Plan. Since the issuance of the Source Control Proposed Plan, the Illinois EPA has gathered additional information about the facility indicating that there were releases of jet fuel and other petroleum based materials on the property. The Illinois EPA does not have documentation that these releases were adequately remediated. Reactive barrier walls are not an appropriate technology to remedy these materials, because the fuel tends to foul the wall rendering it less effective or ineffective. Therefore, the Illinois EPA has chosen enhanced air sparging as a leachate remedy in Area 9/10. Enhanced air sparging is alternative SCL-9/10E in the Source Control Feasibility Study. If results from further data collection in Area 9/10 indicate the presence of free product or higher concentrations of leachate than anticipated, a contingent remedy (leachate containment, collection and treatment--SCL 9/10B) may be implemented in addition to the selected leachate remedy.

37. Comment: No evaluation has been presented comparing the cost and implementation of the proposed groundwater remedial action for Area 9/10 to the already implemented monitored natural attenuation.

Response: See response to comment #36, #38, #40 and #61. Also, it should be noted that the Source Control Proposed Plan is not a groundwater remedial action but a source control remedial action designed to prevent contaminants originating in Area 9/10 from migrating into the area-wide groundwater. According to the modeling conducted for the 1995 groundwater remedy, the sources of contamination must be controlled in order for the groundwater remedy, natural attenuation, to work as projected.

38. Comment: The Source Control Feasibility Study provides little or no design basis for the reactive barrier wall remedy proposed for Area 9/10. None of the significant implementability issues have been addressed or examined, as required by the sixth criterion, implementability.

Response: See the response to comment #36. In addition, implementation issues were considered and reported during the development and preliminary screening of the remedial alternatives. Geotechnical, utility and construction access concerns, especially construction adjacent to city streets, were noted. It was further noted in the detailed evaluation that issues that impact the implementability of this alternative do not impact other alternatives to the same extent.

39. Comment: The Source Control Feasibility Study grossly underestimates the capital costs to implement a reactive barrier wall at Area 9/10.

Response: See response to comment #36 and #61.

40. Comment: The Source Control Feasibility Study does not provide appropriate consideration for the disruption, protection, or replacement of public or private infrastructure features.

Response: See the response to comment #36. In addition, the difficulties with implementation of this alternative were noted as appropriate for the level of effort required for a feasibility study where the technical and administrative feasibility and the availability of services and materials were considered.

41. Comment: The construction method proposed for the vertical barrier wall may not be feasible based on constructability issues such as excavation and area limitations. The analysis presented in the Source Control Feasibility Study fails to satisfy the implementability criterion.

Response: See response to comment #36 and #38.

42. Comment: The proposed reactive portion of the barrier wall, as described, may not be effective based on the improper sizing of the wall which would not allow for proper dechlorination reactions to occur in order to reduce contaminants to the desired levels.

Response: See response to comment #36. In addition, the reactive barrier wall was designed, as was each of the remedial alternatives, with the limited information available for Area 9/10. Treatability testing would have been conducted to refine the cost estimate and design of the wall.

43. Comment: The City of Rockford is very concerned about the impacts construction of a barrier wall will have on area utilities and transportation. Ninth Street is a major north-south thoroughfare in the City of Rockford. A major public water main lies within its right-of-way. The barrier wall alternative appears to have the most potential to affect basic service, and therefore the most potential for unanticipated cost. Have public cost and inconvenience been adequately addressed?

Response: See response to comment #36 regarding the change of the Area 9/10 leachate remedy. In addition the Illinois EPA will consult with Joint Underground Locating Information

for Excavators (JULIE) to make sure excavations will not disrupt underground utilities and with the City of Rockford to minimize disruption of traffic and city services.

44. Comment: The City of Rockford agrees that the reactive barrier wall would be the most efficient means of containment of a well-defined contamination plume. It appears that there is less information available at this location than would be ideal to make a fully informed decision on the remedy.

Response: See the response to comment #36.

45. Comment: The proposed location of the groundwater remedy is the Rockford Products parking lot. Rockford Products has not authorized any activity at the parking lot other than those investigative activities that have been completed and the continued presence of monitoring well MW 201. Rockford Products comments that the implementation of the groundwater remedial action would amount to a government taking of the parking lot.

Response: See the response to comment #36.

46. Comment: Based on the previous comments, the proposed groundwater remedial action (reactive barrier wall) with its long-term deprivation of the use of the parking lot by Rockford Products cannot be justified on the grounds that it is necessary for the overall groundwater remedy.

Response: See response to comment #36 regarding the change of the Area 9/10 leachate remedy from the reactive barrier wall to enhanced air sparging. Regarding the necessity of "groundwater remedial action" for the overall groundwater remedy, the distinction must be made between the leachate remedy for Area 9/10 which is a source control remedy and the decision on the overall groundwater remedy which was made in 1995. See the response to comment #14 for more information about the relationship between these two remedies.

47. Question: How will the barrier wall proposed for the leachate remedy be keyed into the bedrock?

Response: This question is a moot question. See response to the comment #36.

48. Comment: It is expected that the iron filings would have to be rejuvenated about every 10 years thus depriving the owners the use of the parking lot where the wall is proposed to be constructed. (Rejuvenation consists of air sparging; that is, forcing a jet of air into the wall so that the air knocks the rust off the filings and thus rejuvenates them.)

Response: See the response to comment #36.

49. Comment: Would a pump and treat system with air sparging prove more flexible in design and more adaptable to changing conditions than the barrier wall proposed for the leachate remedy?

Response: See the response to comment #36.

50. Comment: Rockford Products believes their comments require retractions of and/or modifications of statements made to justify the proposed groundwater remedial action. They state that additional analysis and re-evaluation of the proposed groundwater remedial action is needed to include full consideration of factors not completely or properly accounted for.

Response: See responses to previous comments in this section.

Area 9/10 leachate remedy in general

51. Comment: The Illinois EPA did not propose an active leachate remedial response alternative for Area 11 based on the use of fate and transport modeling. If the same analysis is applied to Area 9/10, the same conclusion should be reached.

Response: The Illinois EPA and U.S. EPA proposed and are choosing soil vapor extraction with treatment of vapors by catalytic oxidation for Area 9/10 and Area 11 soils. The proposed and chosen Area 11 leachate remedy is "No Action", because the contaminant plume in Area 11 is very different from the plume in Area 9/10 due to the high levels of aromatic compounds ethylbenzene, toluene, and xylene. These compounds greatly enhance the degradation of the chlorinated compounds that may be present in the plume. Additionally, it is well documented in the literature published on the subject of degradation of organic compounds that plumes containing aromatic compounds degrade more rapidly resulting in short plumes, especially in the presence of sufficient oxygen such as would be found in the subsurface in Area 11. Areas 9/10 and Area 11 do not have similar contaminant plumes, so the statement that modeling conducted for Area 9/10 would yield similar results as those for Area 11 is without basis.

52. Comment: The Source Control Feasibility Study failed to define the groundwater management zone (GMZ) for Area 9/10 as a three dimensional region.

Response: The GMZ boundaries outlined in the Source Control Proposed Plan were conceptual. The final three-dimensional GMZ boundaries will be established during the design phase of the project.

53. Comment: *The Illinois EPA has not demonstrated that the proposed groundwater remedial* action for Area 9/10 will be more effective than monitored natural attenuation in eliminating or reducing human risk. In fact, monitored natural attenuation is the proposed remedy for Area 11.

Response: The Illinois EPA is not choosing a "groundwater" remedial action for Area 9/10 in this record of decision. The site-wide groundwater remedy was designated in the 1995 Groundwater Record of Decision. This record of decision deals with the control of the four major sources of contamination that was mandated in the 1995 Groundwater Record of Decision. Source removal is necessary for natural attenuation to work within the 205 years projected by the 1995 Groundwater Record of Decision.

54. Comment: Assuming a half life of 1,1,1-trichloroethane (TCA) of ten years (which is higher than published values), the 12,000 parts per billion of TCA found in MW 201 would degrade naturally in 60 years which is much sooner than the estimated 205 years allowed for the

implementation of the groundwater remedy in the 1995 Record of Decision. Using the more realistic figure of five years for a half-life for TCA, the 12,000 parts per billion in MW 201 would be reduced to the goal of 200 parts per billion in less than 30 years, which is less than the 30 plus years predicted for the proposed groundwater remedy for Area 9/10.

Response: See response to Comment #81 regarding the solubility of TCA and the likelihood that TCA at concentrations of 12,000 parts per billion in groundwater indicate the presence of non-aqueous phase liquid (NAPL). The term "NAPL" is applied to concentrations of chemicals greater than the solubility of the chemicals in water. When chemicals are present at such high concentrations, they no longer easily dissolve in water but are present as free product. TCA at these high concentrations would need to enter the dissolved phase before it could degrade naturally, so the length of half-life that the commenter gives for TCA is not applicable. Half-life only applies to TCA at lower concentrations in the dissolved phase.

55. Comment: The groundwater data presented in the Administrative Record indicate that it will be technically impracticable to achieve Class I standards at the groundwater management zone boundaries. The Source Control Feasibility Study fails to provide sufficient information to adequately satisfy the second threshold criterion, compliance with applicable or relevant and appropriate requirements (ARARs). ARARs are federal, state and local laws and requirements with which the remedy must comply.

Response: The concern evidently expressed in this comment is that upgradient groundwater (water flowing into Area 9/10) may exceed Class I groundwater standards (drinking water standards) making it difficult to meet these standards downgradient from Area 9/10 even after contamination originating in Area 9/10 has been removed or controlled. Illinois groundwater regulations (IL Adm. Code 620) and the federal Resource Conservation and Recovery Act (RCRA) provide for the consideration of background (upgradient) groundwater contamination when setting remediation goals at the downgradient groundwater management zone boundary. This means that although the Area 9/10 remediation goal has been set as drinking water standards (Class I groundwater standards), that if it is demonstrated that water coming into Area 9/10 (or the other three source areas) exceeds these standards, allowances would be made in accordance with RCRA and Illinois groundwater regulations to consider these exceedances when setting the remediation goals downgradient of the source area. Since these allowances would be made in accordance with state and federal laws and regulations, they would meet ARARs.

56. Comment: The goal of Operable Unit 3 is to control sources of contamination that would continue to degrade site-wide groundwater. Since the limited available soils data for Area 9/10 indicate that hazardous substances are present at levels below concentrations that would continue to migrate to groundwater, no leachate remedy should be required for Area 9/10.

Response: See responses to previous comments and questions.

Area 9/10 Soil Remedy

57. Comment: The operation and maintenance cost for the Soil Vapor Extraction remedy is inappropriately based on the operational life of the system.

Response: It is acknowledged that a soil vapor extraction system would probably not be implemented for the 30 years specified in the Source Control Feasibility Study. However, given the uncertainties and lack of data for Area 9/10, the soil vapor extraction costs were based on an assumption that the system would operate for 30 years, because 30 years is the time required by the Resource Conservation and Recovery Act for post-closure care of waste left in place.

58. Comment: The Administrative Record does not support a determination that the risks posed by soils at Area 9/10 warrant a remedial response. The analysis fails to satisfy the first threshold criterion, an evaluation of the remedy's ability to provide overall protection of human health and the environment.

Response: As previously mentioned, since Sundstrand (now Hamilton Sundstrand) limited Illinois EPA access to the site, the soil data did not represent many locations where file data indicate sources of contamination may be located and where the highest concentrations of soil contaminants may be found. That file data were related to actions that Sundstrand had begun under the Resource Conservation and Recovery Act (RCRA) and so were not entered into the Administrative Record for this project, which is being conducted under a different program, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) known as the Superfund Act. The Administrative Record at the time of the Source Control Proposed Plan did contain, however, results from one downgradient monitoring well, MW 201 (original location), with levels of VOC contamination that exceeded the soil saturation limit. Since upgradient wells had much lower levels, the Illinois EPA concluded that the soil on the Hamilton Sundstrand property in Area 9/10 must contain extremely high concentrations of VOCs to the extent that they would leach into the groundwater at the levels found in MW 201 (original location).

The Illinois EPA is now adding to the project Administrative Record File the information about the RCRA action begun by Sundstrand. This information is pertinent to knowledge of the site, and therefore, ultimately, to CERCLA decisions made concerning the site. This RCRA information includes documentation of high levels of VOCs on Hamilton Sundstrand's property, confirming the conclusion Illinois EPA had reached based on data from monitoring well MW 201 (original location). The Illinois EPA is also adding information to the Administrative Record File from the Illinois EPA's Leaking Underground Storage Tank files regarding reports of releases and tank removals by Sundstrand.

General comments about Area 9/10 remedies

59. Question: What was the basis for choosing the proposed alternatives for Area 9/10?

Response: The federal law requires proposed remedies to be evaluated using nine criteria: (1) overall protection of human health and the environment, (2) compliance with relevant state and federal laws and regulations, (3) long-term effectiveness and permanence, (4) reduction of toxicity, mobility or volume of contaminants through treatment, (5) short-term effectiveness, (6) implementability, (7) cost, (8) state acceptance and (9) community acceptance. The first two criteria are called threshold criteria, because all remedies must meet these two criteria. The next

five criteria are called balancing criteria, because the characteristics that meet these criteria may be balanced or weighed against one another. The last two are called modifying criteria. These criteria allow for the modification of the proposed plan in response to State or community concerns.

The State of Illinois had accepted the Source Control Proposed Plan when it was submitted for public comment. The community was given an opportunity to comment on the proposed plan during the public comment period. The plan as originally proposed was modified in response to community comments, and these modifications are reflected in this responsiveness summary and documented in the Source Control Record of Decision, which is supported by the U.S. EPA and the Illinois EPA.

60. Question: What other alternatives were evaluated for Area 9/10?

Response: Three soil alternatives were evaluated for Area 9/10: (1) no action, (2), institutional controls and (3) soil vapor extraction and treatment of vapors by granular activated carbon. Five leachate alternatives were evaluated for Area 9/10: (1) no action, (2) groundwater monitoring and leachate containment/collection and treatment by air stripping, (3) air sparging (in conjunction with soil vapor extraction for the soil remedy), (4) reactive barrier wall and (5) enhanced air sparging (leachate alternative #3 plus additional air sparging wells installed in the most highly contaminated portions of Area 9/10).

61. Comment: The cost estimates provided for the remedial response alternatives proposed for Area 9/10 do not appear to be accurate. The analysis fails to satisfy the requirements of the seventh National Contingency Plan (Superfund regulations) criterion, which is cost.

Response: The typical feasibility study cost estimates are expected to provide an accuracy of +50 percent to -30 percent and are prepared using available data. The costs were developed for each of the remedial alternatives based on similar assumptions. They are provided as a basis for comparison of the remedial alternatives. The costs were prepared as specified in the guidance for conducting feasibility studies.

62. Comment: The Source Control Feasibility Study fails to adequately evaluate the proposed remedial response alternatives against the nine National Contingency Plan criteria. The nine-criteria evaluation is neither sufficiently detailed nor accurate enough to support remedy selection.

Response: As previously stated, limited data were collected in Area 9/10 due to access restrictions imposed by the property owner and the presence of utilities. Given that, remedial alternatives were developed from data that were available at that time. The data suggested that elevated levels of chlorinated volatile organic compounds were present in Area 9/10. The remedial alternatives developed are known processes for addressing the contaminants found. The remedial alternatives were then evaluated against the nine criteria specified in the National Contingency Plan. Although it was not practicable to predict the time required to achieve the remediation goals (cleanup objectives) with the data available, an overall evaluation of protection of human health and the environment and compliance with applicable or relevant and

appropriate state and federal requirements was provided in sufficient detail to support remedy selection.

63. Comment: The Administrative Record does not provide any information that would indicate that a remedial response action at Area 9/10 would eliminate, reduce or control human health threats posed by area groundwater in Southeast Rockford. The Source Control Feasibility Study fails to provide sufficient information to adequately satisfy this first threshold criterion.

Response: The Illinois EPA has demonstrated that the response actions are necessary to protect human health and the environment. See response to Comment #4.

ADEQUACY OF AREA 9/10 CHARACTERIZATION

64. Comment: The fact that Illinois EPA reports in the Source Control Feasibility Study and the Source Control Proposed Plan that there is either a lack of data or there is a need for additional data from Area 9/10 prior to implementation of a remedy means that the Administrative Record does not support a conclusion that Area 9/10 has been adequately characterized, as required under the National Contingency Plan, and does not support selection of a remedy at this juncture. Not only are the current data incomplete, data that are available contradict Illinois EPA's findings.

Response: The National Contingency Plan, 40 CFR 300.430(d), states that the purpose of the remedial investigation is to "collect data necessary to adequately characterize the site for purposes of developing and evaluating effective remedial alternatives." The Southeast Rockford Groundwater Contamination Site is defined by the extent of groundwater contamination with concentrations of total volatile organic compounds above 10 parts per billion. The Illinois EPA defined and characterized the site through a multi-phased remedial investigation based upon Illinois EPA and U.S. EPA approved work plans. Area 9/10 falls within the site boundaries as defined and characterized and is not considered a separate site.

The National Contingency Plan further specifies that the remedial investigation provide information to assess the risks to human health and the environment and to support the development, evaluation and selection of appropriate response alternatives. The data collected during the groundwater and the source control operable units were used to conduct a risk assessment that accurately and effectively evaluated risks to human health and the environment from not only the site-wide groundwater, but also from each of the source areas.

As mentioned in the Source Control Proposed Plan, data regarding risks from Area 9/10 were not as detailed as data from other areas. Sundstrand (now Hamilton Sundstrand) limited Illinois EPA access to their property so that the Agency was not able to collect additional data where file information indicated potential sources of contamination might be located. Nevertheless, there are sufficient data from soil gas survey and groundwater monitoring well results (both upgradient and downgradient of Area 9/10) complemented by information from Illinois EPA's files regarding past handling practices and possible releases of contaminants on the property, to support the selection of the soil and leachate remedies for Area 9/10.

The need for the Area 9/10 soil remedy was based upon the U.S. EPA presumptive remedy process. The U.S. EPA has developed presumptive remedies for some contaminants that are commonly found at hazardous waste sites and with which they have extensive experience in successfully implementing remedies. VOCs are one class of these contaminants. U.S. EPA has designated soil vapor extraction as the presumptive remedy for VOCs in soil. The Illinois EPA followed U.S. EPA guidance on presumptive remedies in determining that the presumptive remedy for VOCs in soil, soil vapor extraction, is appropriate for the Area 9/10 soil remedy.

The need for the Area 9/10 leachate remedy is documented in the Source Control Record of Decision and is supported by results from a monitoring well downgradient of Area 9/10 showing 1,000 times higher contaminant concentrations than the upgradient monitoring well. Illinois EPA files show that contaminants of concern, which include VOCs, exist at concentrations that pose a risk of contaminating groundwater above the Class I Groundwater Standards.

65. Comment: Given the lack of adequate site characterization and the inherent complexities and liabilities associated with the construction of the proposed remedy for Area 9/10, United Technologies Company/Hamilton Sundstrand (UTC/HS) cannot agree to implement the remedy without further study and analysis. Therefore, UTC/HS requests that the Agencies defer remedy selection for Area 9/10 until these critical issues are resolved.

Response: It is true that the Illinois EPA would have preferred to collect more data from Source Area 9/10, but Sundstrand (later to become Hamilton Sundstrand whose parent company is United Technologies), limited the Illinois EPA's access to the site and additional data collection was not possible. Nevertheless, the data that were collected indicate substantial contamination on the Hamilton Sundstrand property and are sufficient to choose a soil and a leachate remedy for the site. Illinois EPA files show that contaminants of concern, which include VOCs, exist at concentrations that pose a risk of contaminating groundwater above the Class I Groundwater Standards.

66. Comment: Given the need for additional site characterization and remedy evaluation, UTC/HS is prepared and willing to conduct additional site characterization activities in close coordination and cooperation with the Illinois EPA and U.S. EPA, within the limitations dictated by operational and safety considerations at Area 9/10. These activities would focus on resolving the site characterization, analysis and feasibility study issues, including a mutual effort to resolve the outstanding regulatory issues. In addition, UTC/HS is willing to undertake soil remediation at the Outdoor Storage Area after the completion of the necessary characterization and pre-design studies.

UTC/HS shares the Agencies' commitment to protect human health and the environment. Towards that end, UTC/HS will commit to an immediate, responsible dialog with the Agencies to assist in moving forward to a consensus.

Response: The Illinois EPA appreciates UTC/HS's offer to conduct activities in cooperation with the Illinois EPA and U.S. EPA. The appropriate procedure for coming to agreement about the nature of these activities is through negotiations.

Further, pursuant to Fall 2001 discussions between and Illinois EPA, and UTC/HS, it is understood that a specific Remedial Design (RD) for Area 9/10 will be approached, initially, through cooperative use of the Superfund Administrative process.

IMPACT OF UPGRADIENT GROUNDWATER ON AREA 9/10

67. Comment: Given that the upgradient groundwater exceeds Class I standards and continues to flow through Area 9/10, no remedial alternatives contemplated for Area 9/10 could meet Class I standards.

Response: See response to Comment #10. According to the Illinois groundwater regulations (35 IL Adm. Code 620), groundwater upgradient of a source (in this case Source Area 9/10) would not be considered to be the result of contamination originating in Source Area 9/10. Upgradient concentrations are taken into consideration when determining the contamination originating on a property.

68. Comment: Based on the proximity of Area 9/10 and Area 11, characterization of potential migration of contaminants between the two areas was not fully considered with respect to the "masking" of chlorinated VOCs within Area 11.

Response: Illinois EPA information shows that activities conducted at Area 11 were primarily painting and varnishing, activities that at the time of use did not involve the use of chlorinated solvents. In addition, the wells upgradient of Area 9/10 showed lower concentrations of chlorinated VOCs coming into the area compared to the concentrations of VOCs exiting the area. See the response to the previous comment regarding setting remediation goals for leachate leaving Area 9/10.

69. Comment: Data show that groundwater upgradient of Area 4, 9/10 and 11 exceeding Class I standards (public drinking water supply standards) is moving into and impacting groundwater in those three areas. A map entitled Figure 8 "Groundwater Sample Locations Exceeding Class I Standards Nov/Dec 2000" is submitted by the commenter in support of this conclusion. (The map is available at the repositories and is part of Hamilton-Sundstrand's comments).

Response: Figure 8 submitted as a public comment has incorrect information regarding bedrock sampling locations. The wells indicated by the key at the bottom of the map to be bedrock wells are in fact a mixture of bedrock and overburden wells. For example MW 201, MW 202 and MW 203 are not bedrock wells although they have been labeled as such. These three are overburden wells. MW201 was screened just below the water table in order to provide a good indication of contamination potentially entering the groundwater from the surface or near surface. Although some contamination may be moving into Area 9/10, the 1,000 fold increase detected between wells upgradient and downgradient from Area 9/10 supports the Illinois EPA's conclusion that Area 9/10 is a major source of groundwater contamination in the Southeast Rockford Groundwater Contamination Superfund project.

70. Comment: Since Area 7 is a source of contamination in both the unconsolidated (sand and gravel) and consolidated (bedrock) aquifers, the proposed response actions for Area 9/10 will not materially improve deep groundwater conditions such that the aquifer could support unrestricted

use. A map entitled Figure 9 "Bedrock Aquifer Sample Locations Exceeding Class I Standards Nov/Dec 2000" is submitted to support this conclusion.

Response: It should be noted that currently there are no bedrock wells in Area 9/10 to measure bedrock contamination, if any, in Area 9/10. It should also be noted that the Area 9/10 remedies are not designed to materially improve deep groundwater in the 9/10 area. They are designed to control the sources within Area 9/10 to prevent further release of contaminants from Area 9/10 to the aquifer, thus allowing the site-wide groundwater remedy to work more effectively. Based on current data, the Illinois EPA agrees that contamination found in deep bedrock east of Area 9/10 may be due to releases from Area 7, but Figure 9 submitted by the commenter is incorrect. It should be noted that MW 130 is not a bedrock well. Additionally, it is extremely important to note that while MW113, MW101, MW102, and MW133 are screened in the dolomite bedrock aquifer, MW114 B is not. MW 114B is located south and east of Area 9/11 and is screened in the St. Peter sandstone aquifer. Additionally, please refer to Figure 4-32 of the groundwater investigation report (CDM January 1995) for a cross section illustration of the Area 7 groundwater plume moving downgradient. Based on data collected during the groundwater investigation, the sandstone and dolomite aquifers do not appear to be hydraulically connected east of 20th street. Therefore the contamination from Area 7 would be hindered from migrating downward into the sandstone in the vicinity of the Source Area 7. So MW 114A, which is a shallow overburden well in the same location as MW 114B, would be expected to be more contaminated than the bedrock well (MW 114B) due to the confining layer that protects the sandstone aquifer east of 20th Street. The test results of groundwater from these two wells confirm this assumption. See the map on the last page showing the approximate locations of these monitoring wells.

71. Comment: According to the Source Control Proposed Plan, groundwater leaving the groundwater management zone for Area 9/10 is required to meet drinking water standards whereas the groundwater leaving Area 11, while monitored, is not required to meet the same standards. Area 11 is in the same general vicinity as, and upgradient from, Area 9/10. This means that at points downgradient of both Area 9/10 and Area 11, there will be concentrations of trichloroethylene (TCE) that will have met the goal, while there will also be concentrations that have not. The Illinois EPA has not given a justification for allowing this discrepancy.

Response: According to the modeling, the groundwater leaving Source Area 11 will meet drinking water standards. The water will be monitored to see if the modeling is accurate. If the modeling is not accurate, then the leachate remedy will be reevaluated to see if it needs to be modified or changed.

THE CORRELATION BETWEEN SOIL GAS SAMPLES AND SOIL BORINGS IN AREA 9/10

72. Comment: The soil gas iso-concentration maps may not provide an accurate representation of the soil gas concentrations within Area 9/10 due to significant data gaps.

Response: The iso-concentration maps provided in the report on the Illinois EPA focused remedial investigation are a best estimate, based on technical expertise and site knowledge, of the soil gas concentrations in the vicinity of the commenter's facility (Hamilton Sundstrand).

While soil gas concentrations beneath the plant may not have been confirmed through soil testing during the focused remedial investigation, new file information now available helps to confirm the hypothesis that VOC releases have occurred on facility property. See the response to comment #36.

73. Comment: There is little to no correlation between the soil gas data and the soil sample analysis for Area 9/10.

Response: The Illinois EPA acknowledges that there is little correlation between soil gas sample data and soil boring data collected for Area 9/10. However, the concentrations of VOCs in the soil gas in the vicinity of the facility, particularly in the downgradient direction and along utility conduits, still indicate the potential for a VOC source within the Hamilton Sundstrand facility. Unfortunately, soil sample collection was prohibited within much of the facility because of limitation on access, and remedial sampling activities did not pinpoint the actual VOC source location(s). New file data greatly assist with the confirmation of the location of sources of VOC releases within the facility. See also response to comment #36.

It should also be noted that significant VOC sources within soil are difficult to locate within sandy soils and that soil gas often migrates well beyond the immediate source area. Without extensive sampling efforts, it is impossible to rule out soil sources of VOCs.

74. Comment: The discussions about soil gas sampling in the Source Control Remedial Investigation Report, the Feasibility Study and the Proposed Plan leave the incorrect impression that VOCs detected in soil gas measured at Rockford Products Plant 1 and the Rockford Products parking lot are due to contaminated soil on the Rockford Product Plant 1 property and parking lot. Soil boring results show that VOCs are essentially at non-detectable levels at these two locations, clearly showing that the VOCs in the soil gas migrated from the groundwater and not from nearby contaminated soil. Speculations and generalizations about the source of soil gas elevations should be removed or specifically qualified with clear statements that they are not supported by the available technical evidence. Rockford Products believes their comments require retractions of and/or modifications of statements made about Plant 1 and the parking lot.

Response: The Illinois EPA's position is that statements in the Source Control Remedial Investigation Report, Source Control Feasibility Study and Source Control Proposed Plan give clear interpretations of the data available in Area 9/10 including discussions about the limitations of the data. Based on current information, the Illinois EPA does not think that there are major sources of contamination in the Rockford Products Plant 1 property or parking lot contributing to the overall groundwater contamination of the Southeast Rockford Groundwater Contamination Superfund project area.

75. Comment: The same comment holds true for samples of three soil borings in the north end of the parking lot that show no significant detections of chlorinated VOCs, benzene, ethylbenzene, toluene or xylene. Speculations and generalizations about the source of soil gas elevations should be removed or specifically qualified with clear statements that they are not supported by the available technical evidence.

Response: See response to the previous comment.

COMPARISON OF PAST AND PRESENT DATA IN AREA 9/10

76. Comment: The data collected by the Illinois EPA, which is the basis for the Source Control Proposed Plan, were collected primarily in 1995 and 1996. More recent data collected by the City of Rockford under the terms of the consent decree indicate significant differences in the concentrations and distribution of groundwater impacts throughout the study area. The new data indicate that the characterization presented in the Administrative Record does not represent current conditions.

Response: The Illinois EPA assumes that the recent monitoring data being referred to in this comment are groundwater data only since the City of Rockford is not gathering soil data. With that understanding, the Illinois EPA acknowledges that data from 1995 and 1996 may not compare exactly to current conditions. The Illinois EPA also expects that the dynamics of the groundwater contamination plume will change over time as the contaminants migrate through the subsurface. The reasons for these changes could be due to many different external factors such as precipitation events, groundwater flow directions, contaminant source locations and contaminant source concentrations. However, the Illinois EPA's position is that the commenter has not provided any new data documenting significant changes between the groundwater conditions in 1995 and 1996 and the present. The two groundwater contaminant plume maps provided by the commenter (entitled "Figure 5 Total VOC Concentrations in Groundwater 1995 ROD Data" and "Figure 7 Total VOC Concentrations in Groundwater 2000 Sample Data") cannot be directly compared because the same wells were not used to prepare Figure 5 and Figure 7. For example:

- Eight new wells installed after the preparation of Figure 5 are included on Figure 7,

- MW 201, which was placed hydraulically downgradient of a suspected source in Area 9/10, is shown in its original location in Figure 5 and in a different location in Figure 7. Monitoring well MW 201 was destroyed and moved to a new location approximately 50 feet north of the original location. The original location of MW 201 was surveyed and coordinates are available in the 1995 Groundwater Remedial Investigation Report appendices. The Resource Conservation and Recovery Act (RCRA) requires that any monitoring well replacement be installed within 10 feet of the original location. Moving the well 50 feet from its original location in a very transmissive aquifer has likely resulted in a monitoring point that is in a different zone of the contaminant plume. This conclusion is justified based on a review of the data collected by Illinois EPA during the Groundwater and Source Control Remedial Investigations and by the City of Rockford as required by the 1998 Amended Consent Decree. It is the opinion of the Illinois EPA that the current location of MW 201 does not constitute a replacement for the original MW 201 but provides a different monitoring point. This new location, shown on Figure 7, is potentially side gradient to the suspected source area. A monitoring well log and surveyed coordinates should be provided for this new well, and an adequate justification for moving the well to its present location should be given. At this time, the groundwater data from the original MW 201 and the newly installed MW 201 are not directly comparable. Therefore, while the current groundwater sampling results can be evaluated regarding current conditions, there is a data gap in the vicinity of the original MW 201.

- It is evident that upon comparison of data from other wells in Area 9/10, that contaminant concentrations have changed over time, some decreasing, some increasing. However, none of the changes are of the same magnitude as that observed between the original MW 201 data and the data from the current MW 201 location. Since the two maps provided by the commenter show different wells with different locations, one would expect the two maps to show different concentrations and distribution of contaminants. These differences do not necessarily document a change in groundwater conditions over time.

77. Comment: Modeling the expected migration of compounds recently detected in MW 201 indicates that Class I standards would be achieved within the proposed groundwater management zone boundary without any further remedial action.

Response: See the response to the previous comment regarding lack of current data from the original location of monitoring well MW 201 and the inappropriateness of comparing data from the original monitoring well MW 201 location with data from the current monitoring well MW 201 location.

78. Comment: The Illinois EPA used data collected after the initial field investigation efforts in 1995 and 1996 to further characterize Area 7. Based on this precedent, the data collected by the City of Rockford from the site-wide groundwater monitoring program, after 1996 should also be fully utilized to adequately characterize current site conditions.

Response: Current data will likely be used in conjunction with additional data to be collected to support the design of the selected remedy for Area 9/10.

79. Comment: The current distribution of VOCs does not support the Illinois EPA's contention that Area 9/10 is a significant source of VOC releases to area groundwater.

Response: In 1996, concentrations of VOCs in MW 201, which is downgradient from Area 9/10, were over 1,000 times the concentration of total VOCS present in the two wells upgradient of Area 9/10 (monitoring wells MW 202 and MW 203.) As noted in the response to comment #76, MW 201 was moved and is likely now located side gradient to a potential source in Area 9/10. Even with this change in monitoring well location, the current City of Rockford groundwater monitoring data show that the downgradient groundwater concentration of total VOCs is 50 times greater than the upgradient concentration. The Illinois EPA's position is that current information, even though it contains no data from the original location of MW 201, confirms that Area 9/10 contains a significant source that does release VOCs to the groundwater.

THE PRESENCE OF NON-AQUEOUS PHASE LIQUID (NAPL) IN AREA 9/10

80. Comment: The Illinois EPA identified the groundwater sample result from MW 201 from the 1996 sampling event as proof that a non-aqueous phase layer (NAPL) is present in Area 9/10, constituting a "principle threat" requiring a leachate control remedy. The data that Illinois EPA is using are outdated. Current data indicate there is no basis to conclude that NAPL is present

and therefore, there is no basis for the Illinois EPA to conclude that a remedial response at Area 9/10 is necessary in order to protect human health and the environment.

Response. See response to comment #76 regarding the inappropriateness of comparing data from the original monitoring well MW 201 location with data from the current MW 201 location.

81. Comment: The assumption that non-aqueous phase liquid (NAPL) is probably present in Area 9/10 subsurface soils is not supported by the technical evidence for two reasons: (1) The testing of monitoring well MW 201 and the soil borings SB 202 and SB 205 were negative. (2) The concentrations in MW 201 are not high enough to meet the rule of thumb that NAPL might be a concern if the concentration of a compound in groundwater reaches one percent of its solubility. The solubility of 1,1,1-trichloroethane (TCA) is 4,400,000 parts per billion at 20 degrees centigrade (Handbook of Environmental Data on Organic Chemicals, Second Edition, p. 1192, Van Nostrad Reinhold). One percent of 4,400,000 parts per billion is 44,000 parts per billion. Concentrations of TCA in MW 201 are almost four times less than the rule of thumb number.

Response: The Illinois EPA reaffirms its conclusion of the likelihood of NAPL in Area 9/10 for the following reasons:

- Calculations of solubility vary widely depending upon conditions. The value of 4,400,000 parts per billion cited from the Handbook of Environmental Data on Organic Chemicals is at the very high end of a range of values for the solubility of TCA. The Groundwater Chemicals Desk Reference (Montgomery, 1996) gives a range of aqueous solubility of TCA from 300,000 to 1,550,000 parts per billion. Using one percent of the solubility of a chemical as a guide for determining the presence of NAPL, the presence of TCA NAPL would be indicated if it were present in groundwater in concentrations varying from 3,000 to 15,500 parts per billion depending upon what solubility value is used. TCA was found in monitoring well MW 201 (original location) at 12,000 parts per billion, therefore indicating the presence of NAPL.

- As stated in the Source Control Remedial Investigation Report, dense non-aqueous phase liquid (DNAPL) would not be expected to be present in the shallower portions of the unconsolidated aquifer in the vicinity of Area 9/10, because the soil is sandy and contaminants would sink through the sand. Data from an Illinois State Geological Survey well indicate that the first confining layer (material through which contaminants cannot easily sink) is a clay layer at 120 feet beneath ground surface near the intersection of 9th Street and Harrison Ave. The soil boring SB 202 referenced in the above comment ended at 80 feet below ground surface and the referenced SB 205 ended at only 55 below ground surface. Monitoring well MW 201 (original location) was screened (the opening in the casing through which water is allowed into the well) between 36 and 46 below ground surface. The elevated concentration of TCA detected in MW 201 (original location) in 1996 is indicative of a DNAPL that may have been present below the screened interval of MW 201 (screened at 36-46 feet), possibly located on the clay unit found about 120 feet below ground surface in that area. As has been stated in numerous guidance documents and publications regarding site characterization for DNAPL, "The ultimate path taken by DNAPL can be very

difficult to characterize and predict." (Estimating Potential for Occurrence of DNAPL at Superfund Sites, U.S. EPA Publication: 9355.4-07FS).

- Illinois EPA also has information from the RCRA corrective action begun but not completed by Sundstrand that show perchloroethylene (PCE) in the soil at concentrations high enough to indicate the presence of NAPL. By following the procedure outlined in the previously cited U.S. EPA document, the potential for DNAPL to be present at the site is high to moderate. The potential was evaluated by answering the following two questions: (1) Does historical use indicate the presence of DNAPL? (2) Do characterization data indicate the presence of DNAPL?

  The first question was answered by evaluating other questions within a flow chart in the publication referenced above (p. 4). The question second from the top of the flow chart is: "Does a process or waste practice employed at the site suggest a high probability of historical DNAPL release?" An answer of "yes" to the above question is regarded as a "yes" to the overall historical site use question. Table 2 in the document lists "storage of solvents in underground storage tanks" as one of the waste practices that suggest a high probability of historical DNAPL release. Solvent releases from an outdoor hazardous waste storage area and an associated corroded waste solvent tank located at the former Plant #2 were documented in a request for RCRA closure in 1993. This is clearly an answer of "yes" to the first question.

  The second question relies on a set of four conditions, any of which can indicate the presence of DNAPL. The conditions are as follows:

  Condition 1: Concentrations of DNAPL-related chemicals in groundwater are greater than one percent of pure phase solubility or effective solubility.

  Condition 2: Concentrations of DNAPL-related chemicals in soils are greater than 10,000 parts per million.

  Condition 3: Concentrations of DNAPL-related chemicals in groundwater calculated from water/soil partitioning relationships and soil samples are greater than pure phase solubility or effective solubility.

  Condition 4: Concentrations of DNAPL-related chemicals in groundwater increase with depth or appear in anomalous up-gradient/across gradient locations.

  Currently, there are insufficient data to evaluate conditions 1, 2 and 4 due to the lack of deep groundwater data and soil data. Condition 3 was evaluated using the data from the RCRA corrective action begun but not completed by Sundstrand and is shown in the following table.

Parameter	Value	Units	Source
Log Koc	2.35-2.94	Log (L/kg)	
foc	0.002	Mass fraction	Typical for sandy soil
C_{soil}	3,500 (trench 2) 2,900 (VE4)	Mg/kg (parts per million)	Measured values
Solubility of PCE	150	mg/L (parts per million)	Verschueren (1983)

The concentration of PCE that would partition to groundwater (C_{water}) is calculated using the following equation:

$$C_{water}\ (mg/L) = C_{soil}\ (mg/kg)/(Koc * foc)$$

Using the maximum Koc value and the lower of the two PCE concentrations provides a conservatively low PCE concentration in water as follows:

$$C_{water}\ (mg/L) = 2{,}900\ mg/kg/(0.002*871\ L/kg) = 1665\ mg/L$$

Because the concentration of PCE predicted to partition to water is greater than the solubility of PCE in water (150 mg/L), condition 3 is met and the probability for NAPL at the site is moderate to high.

USE OF TACO IN AREA 9/10

82. Comment: The need for groundwater-related response actions at Area 9/10 should be reevaluated in accordance with 35 IAC 742 rules and regulations (Tiered Approach to Corrective Action Objectives or TACO).

Response: The TACO regulations apply to sites in the Illinois EPA Site Remediation Program, not to sites, such as the Southeast Rockford site, that have been placed on the National Priorities List (NPL). The U.S. EPA does not consider TACO rules and regulations an applicable or relevant and appropriate requirement (ARAR) for NPL sites, because even though the TACO regulations have been promulgated they are not enforceable.

83. Comment: TACO should be used to exclude pathways of exposure[1] specifically the groundwater exposure pathway. The Illinois EPA TACO Fact Sheet #1 states, "human exposure route(s) can be excluded from further consideration provided the requirements in Subpart C of TACO are met. The human exposure routes are inhalation, soil ingestion and groundwater ingestion (including migration to groundwater). Exclusion of an exposure route will require an institutional control." The Illinois EPA TACO Fact Sheet #8 summarizes the Subpart C requirements to exclude a pathway as follows:

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[1]An exposure pathway is the means in which humans can be exposed to contaminants. For example, humans can be exposed to contaminants by drinking, cooking and/or bathing in groundwater that contain contaminants.

- Free product has been removed to the extent practicable.
- The source of the release is not within a setback zone or a regulated recharge area of a potable water supply well.
- All areas within 2,500 feet of the source of the release are governed by an ordinance adopted by a unit of local government that prohibits the use of groundwater as a potable supply.
- Using equation R26 in Appendix C, Table C, all contaminants will meet the Tier I objective at the nearest setback zone.

Response: See response to previous comment regarding the applicability of TACO.

MISCELLANEOUS COMMENTS AND QUESTIONS ABOUT AREA 9/10

84. Comment: The slides shown at the hearing indicate that a remediation well would be on Hamilton Sundstrand property. Is this correct?

Response: The locations of the soil vapor extraction wells needed for the remedy have not been finalized. Because of limited access in Area 9/10, the investigation was not as thorough as the investigation in the other three areas. Before the Area 9/10 remedy is actually designed and the locations of the extraction wells are determined, more investigation will have to be conducted to more precisely identify the location of contamination. Based on current data, extraction wells will be placed on Hamilton Sundstrand property, but additional data may show that the wells need to be moved.

85. Question: Is it possible for the Illinois EPA and the U.S. EPA to give a "clean" letter for the building located on the corner of 23rd Avenue and 11th Street?

Response: A "clean letter" cannot be given to owners of properties within the four source areas until the remedial action has been successfully completed. However, there are three possible methods by which owners of property within the four source areas could perhaps provide assurances to prospective purchasers of their property.

1. Certain businesses may be covered by the Small Business Liability Relief and Brownfields Revitalization Act recently signed by President Bush. In general, certain businesses purchasing property may be covered by the *bona fide* prospective purchaser provisions of that act. These provisions provide certain protections of businesses from liability for contamination present on the property at the time of purchase (if certain conditions are met).

2. Other businesses interested in purchasing property within the four source areas and who meet specific criteria could approach the U.S. EPA, Region 5, about possibly negotiating a Prospective Purchasers Agreement. Such agreements have been used by parties to assure them that they would not be liable for contamination on property they purchase as provided in the agreement, if that contamination were present at the time of purchase.

3. The 1999 amended consent decree and 2001 second amendment to the consent decree

between the City of Rockford and the State of Illinois and the U.S. Government provided eligible area property owners certain releases of liability for contamination. Eligible area property owners are "covenant beneficiaries" as defined by that decree. These releases do not apply to contamination originating on one's own property with the exception of property in Area 7. In certain circumstances, these releases of liability can be transferred to a subsequent purchaser, lessee or mortgagee of the property. For more information about the releases and the eligibility for these releases see Section VIII "Covenants not to Sue by Plaintiffs" in the 1999 amended consent decree. A copy of both decrees has been placed in the repositories listed on the back of this document.

86. Comment: Rockford Products requests that their comments be included in the Administrative Record for the project and that all information provided in recognition of, or response to, these comments also be placed in the Administrative Record.

Response: The federal Comprehensive Environmental Response, Compensation and Liability Act (the "Superfund" law) requires that all comments submitted to the Illinois EPA within the designated comment period, including oral comments given at the public hearing, be part of the Administrative Record for this project. In accordance with this federal requirement, the written comments submitted by Rockford Products within the designated comment period will be incorporated into the Administrative Record. This responsiveness summary is a summary of the Agencies' responses to public comments received during the public comment period. It will be placed in the Administrative Record.

Area 11

87. Question: We have Area 11 for lease. Would the remedy proposed for Area 11 interfere with business operations?

Response: The intent of Illinois EPA and the is that the construction and operations of the remedy will cause as little interference as possible with business operations. The soil vapor extraction system proposed for Area 11, with the exception of the treatment building, would be primarily below ground and should not disrupt business operations after it is constructed. The treatment building, of course, will take up space.

88. Question: Since it appears that the source of contamination at Area 11 is from the old paint factory on the southern part of the property, would the Illinois EPA and the U.S. EPA give purchasers of the property a "clean letter" saying that no further remediation would be required of the purchase?

Response: The same response given to comment #85 applies to this question.

GLOSSARY

Applicable or Relevant and Appropriate Requirements (ARARs). Any state or federal statute or requirement that pertains to protection of human life and the environment in addressing specific conditions or use of a particular cleanup technology at a Superfund site. The National Contingency Plan requires that remedies at Superfund sites meet nine criteria. One of these criteria is that the remedy complies with ARARs.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The federal law (commonly called the Superfund law) passed in 1980 and amended in 1986 to provide procedures and funds to investigate, and if necessary, to remedy the nation's most serious hazardous waste sites.

Downgradient. A physical location where water is present at a lower elevation. Water flows "downhill" or downgradient.

IDPH. Illinois Department of Public Health.

Illinois EPA. Illinois Environmental Protection Agency.

National Contingency Plan (NCP). The regulations implementing the Comprehensive Environmental Response, Compensation and Liability Act.

Operable Unit. Term for each of a number of separate activities undertaken as part of a Superfund site cleanup. For example, in this project, connecting properties that had private well water violating public water standards was one "operable unit". A second operable unit was investigating the extent of groundwater contamination and deciding on an area-wide groundwater remedy. This operable unit focuses on defining and remedying the four major sources of groundwater contamination.

Resource Conservation and Recovery Act (RCRA). A federal law passed in 1976 that regulates the handling and disposal of hazardous waste.

Record of Decision (ROD). The document, signed by the Director of the Illinois EPA and the Administrator of U.S. EPA, Region 5, that records the decision about a remedy for an Illinois Superfund site.

Superfund Site. The common name given to sites on the National Priorities List (NPL). The NPL is a list of the nation's most hazardous sites that are eligible for investigation and, if necessary, a remedy under the federal Superfund law. (See "CERCLA" above.) The Southeast Rockford Groundwater Contamination Superfund Site was placed on the NPL in 1989.

Tiered Approach To Corrective Action Objectives (TACO). TACO is an unenforceable method described in the State of Illinois Administrative Codes for developing remediation (cleanup or corrective action) objectives for contaminated soil and groundwater. This method is used for sites in the State Remediation Program but is not considered a requirement for sites on the Federal National Priorities List (Superfund), because TACO is not enforceable. Other methods have been developed by the U.S. EPA to develop corrective action objectives for federal Superfund sites.

Upgradient. A physical location where water is present at a higher elevation. See the definition of "downgradient".

U.S. EPA. United States Environmental Protection Agency.

Volatile Organic Compound (VOC). A chemical compound that evaporates (volatilizes) readily and that contains carbon (is organic).

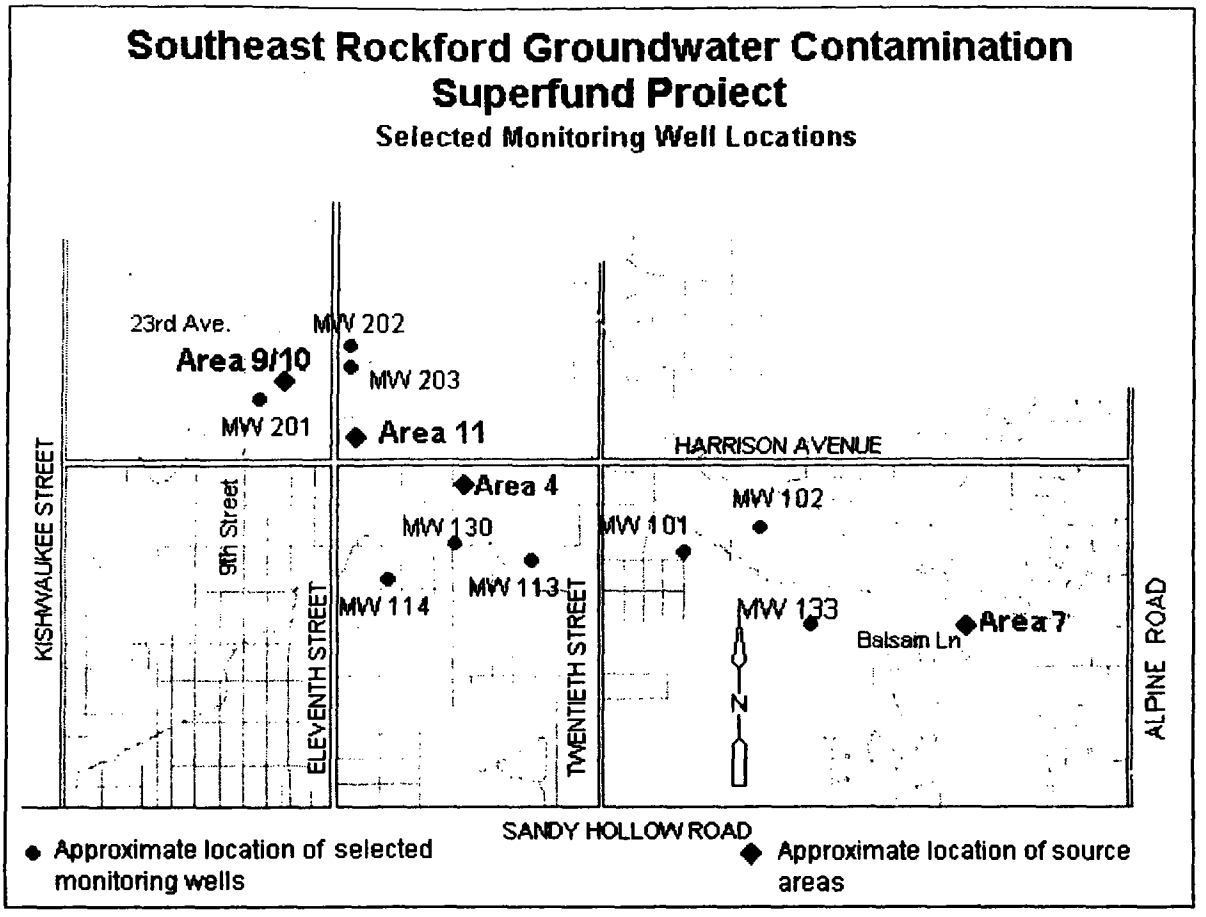

Figure 1

For More information

Contacts. You may contact Virginia Wood, Illinois EPA Community Relations Coordinator, or Thomas Williams, Illinois EPA Project Manager, at 1021 North Grand Ave. East; P.O. Box 19276, Springfield, IL 62794-9276. Virginia Wood's e-mail address is Virginia.Wood@epa.state.il.us and her telephone number is 217/785-1269. Thomas Williams' e-mail address is Thomas.Williams@epa.state.il.us and his telephone number is 815/223-1714.

Repositories. The Illinois EPA has placed the full remedial investigation report, feasibility study, proposed plan, record of decision and other project information in two locations. The first is the Ken-Rock Community Center, 3218 South 11th Street in Rockford. The second location is the Rock River Branch of the Rockford Public Library, 3128 South 11th Street in Rockford.

Administrative Record File. The administrative record file contains all documents upon which project decisions are based. This file is located in the Springfield Office of the Illinois EPA. Call for an appointment at 217/782-9878. A copy of the Administrative Record File is on microfiche located at the main branch of the Rockford Public Library, 215 N. Wyman Street in Rockford.